(No Model.)

J. C. POTTER.

BEATER FOR USE IN MACHINES FOR OPENING COTTON.

No. 524,695. Patented Aug. 14, 1894.

Fig. 2.

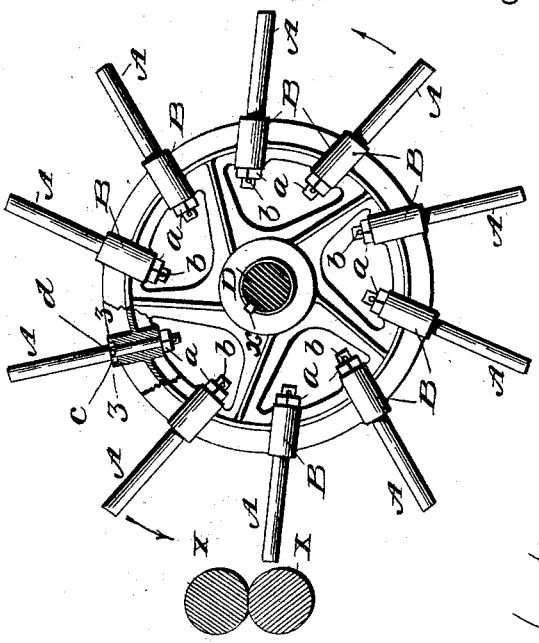


Fig. 4.

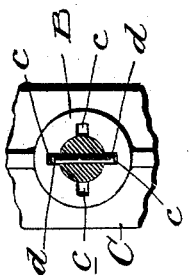
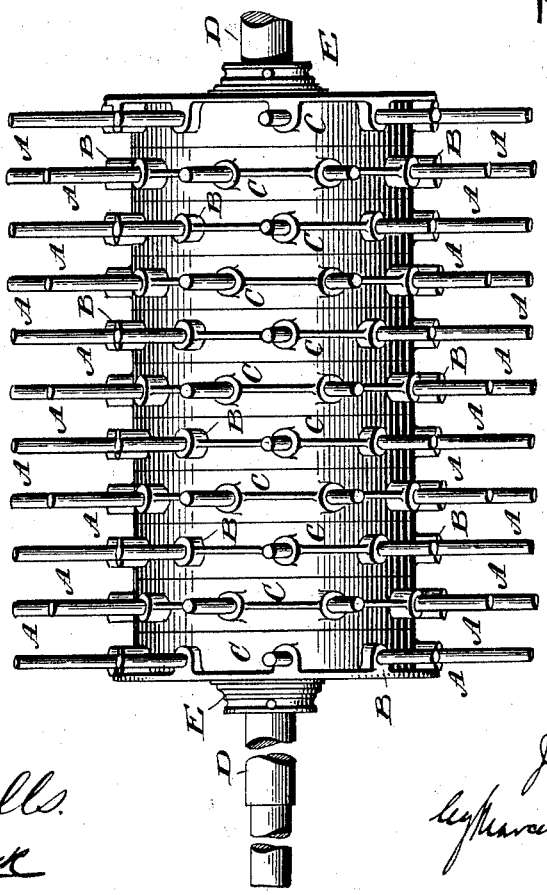


Fig. 1.



Witnesses
L. C. Hills.
Everett Dick

Inventor
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UNITED STATES PATENT OFFICE.

JAMES C. POTTER, OF PAWTUCKET, RHODE ISLAND.

BEATER FOR USE IN MACHINES FOR OPENING COTTON.

SPECIFICATION forming part of Letters Patent No. 524,695, dated August 14, 1894.

Application filed March 30, 1894. Serial No. 505,752. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. POTTER, residing in Pawtucket, in the State of Rhode Island, have invented a new and useful Improvement in Beaters for Use in Machines for Opening Cotton and other Fibrous Materials, of which the following is a specification.

The opener-beater to which my invention relates is one that is armed with projecting pins or studs which strike the cotton or other material as it passes from between the feed rolls.

It is my object to produce a beater of this kind that shall do efficient work without injury to the staple, and shall be very durable.

The nature of my invention and the manner in which the same is or may be carried into effect can best be explained and understood by reference to the accompanying drawings, in which—

Figure 1 is a front elevation of a beater embodying my invention in its preferred form. Fig. 2 is an end elevation partly in section of one of the sections of which the beater is composed, with a diagrammatic representation of the feed rolls in order to indicate more clearly the relation in which the pins stand to them, when the beater is mounted in an opening machine or scutcher. Fig. 3 is a section through one of the bosses on line 3—3, Fig. 2.

The pins A which project from the body or shell of the beater and are set staggering are cylindrical in cross section. They present a half round surface to the cotton when doing their work, thus avoiding the sharp corners which are found in square or like shaped pins, and which are apt to curl or "string" (as it is termed) the cotton. The pins are not radial but are set off at an angle as represented in the drawings—that is to say they are set at such an angle as to intersect the prolongation of the diameter of the beater, with their outer ends inclined slightly rearwardly relatively to the direction of revolution of the beater, as indicated in Fig. 2. When thus set they present a keen half round working edge to the cotton passing from between the feed rolls X. The pins are held in tubular bosses B, which are set at the proper angle to give the pins the requisite rearward inclination and are of less internal diameter than the projecting parts of the pins, whose shanks are turned down to fit in the bosses. The pins are held in place by nuts *a* on the screw threaded inner ends of their shanks which draw the shoulders on the pins tightly down on the bosses, split colters *b* being put through holes in these ends to prevent the nuts from working off.

In working on the cotton the portion of the edge of the pin which meets the cotton becomes dull and worn off, so that it will not do its work properly. To obviate this difficulty I provide means whereby a fresh portion of the edge of the pin can be presented to the cotton whenever desired.

The outer portion or end of each tubular boss has internal radial grooves or recesses *c*, which receive one or more lateral projections or studs *d* on the shank of the pin. Whenever the portion of the edge of the pin presented to the cotton becomes worn, and it is desired to present a new keen edge, the nut *a* is loosened, the pin is drawn out of its boss far enough to disengage the projections *d* from the recesses *c*, is given a quarter turn, to present a fresh portion of the edge, and is then dropped back and secured in place. The same result can be secured in other ways—as for example by having a squared or equivalently formed shank for the pin, and a socket of corresponding shape in the boss. In this way the life of the beater is much prolonged; and the pins themselves last four times as long as they would were they not made capable of the adjustment just described.

I prefer to make the beater a sectional one, its body being composed of sections C, each being a single spider casting having a cylindrical shell with bosses for the pins, a hub and arms connecting the hub and shell as seen in Fig. 2. These sections are keyed on the shaft D, as indicated at X and are held together thereon by end nuts E.

In practice the pins are seven-eighths of an inch in diameter; the bosses are bored out to three-fourths of an inch internal diameter; and the shanks of the pins are turned down to three-fourths of an inch to fit the bosses.

Having described my invention and the

best way now known to me of carrying the same into effect, what I claim, and desire to secure by Letters Patent, is as follows:

1. In an opener-beater the combination with tubular rearwardly inclined bosses provided with radial internal grooves or recesses, of cylindrical pins fitting said bosses and provided with lateral projections entering said grooves or recesses, as and for the purposes set forth.

2. An opener-beater having rearwardly inclined cylindrical pins, similarly inclined bosses in which said pins fit and are capable of individual axially rotary adjustment, and means for holding the pins in their adjusted position, as set forth.

In testimony whereof I have hereunto set my hand, before two subscribing witnesses, this 28th day of March, 1894.

JAMES C. POTTER.

Witnesses:
DANIEL T. BROWN,
THOMAS P. BARNEFIELD.